EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 56024024
PUBLICATION DATE : 07-03-81

APPLICATION DATE : 01-08-79
APPLICATION NUMBER : 54097204

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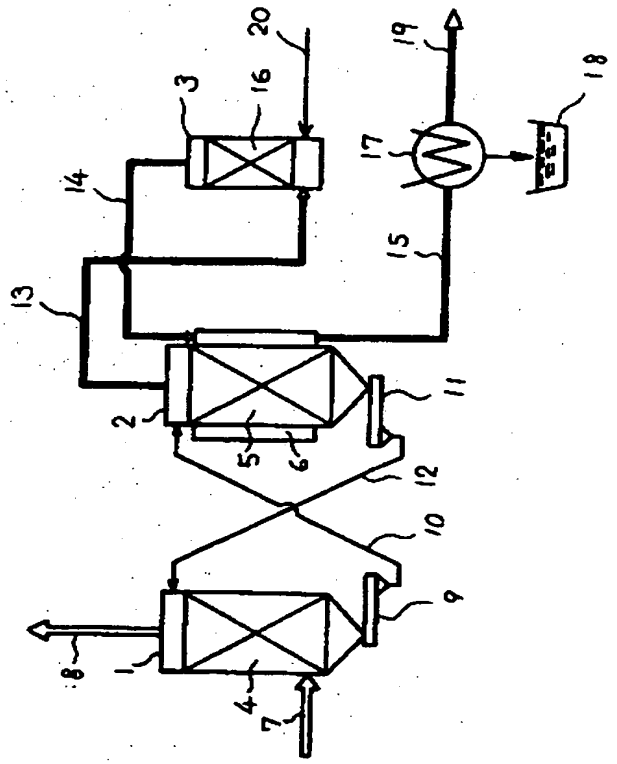
INT.CL. : B01D 53/34 B01D 53/02 C01B 17/04

TITLE : REMOVAL OF SULFUR DIOXIDE IN EXHAUST GAS



ABSTRACT : PURPOSE: To save heat energy and to reduce an amount of a cooling water for condensing S by a method wherein an adsorbing agent after SO_2 adsorption is heated at a specific temp. and S vapor with a specific temp. generated when desorbed SO_2 is reduced is utilized as a heat source for SO_2 desorption.

CONSTITUTION: SO_2 in an exhaust gas is adsorbed by an adsorbing agent 4 comprising activated coal or semi-code until near saturated point thereof and above described adsorbing agent 4 is continuously taken out to a desorbing device 2 and heated to 300~400°C by a converting gas 14 with 800~900°C supplied to an external heating portion 6 to discharge adsorbed SO_2 as a concentrated gas 13 and this gas i introduced to a S converter 3. The converter 3 packed with semi-coke 16 or the like is heated to 800~900°C by a fuel 20 and the SO_2 gas 13 is reduced and converted to S vapor, thereafter the converted gas 14 with a temp. of 800~900°C is supplied to the aforementioned heating portion 6. As a result, S vapor is cooled by heat exchanging with the adsorbing agent 4 and an amount of a cooling water in a condenser 17 is reduced as well as a heat source at the desportion tower 2 is economized.